

ABSTRACT

The invention provides micro-electromechanical switch (MEM) based designs for reducing the power consumption of logic blocks (e.g., latches) by isolating the logic blocks when they are non-operational. A power reduction circuit in accordance with the present invention comprises a logic block and at least one micro-electromechanical (MEM) switch for selectively disabling the logic block. MEM switches are provided for selectively: disconnecting the logic block from power; disconnecting the logic block from ground; providing a bypass line around the logic block; disconnecting an output of the logic block; and/or disconnecting an input of the logic block.